NOAA Information Technology Review Board
Investment Summary
FY 2008
SAMPLE

Operating Unit: **National Oceanic and Atmospheric Administration (NOAA)**

Office: NOAA Oceanic and Atmospheric Research (OAR)

Investment Title: National Integrated Drought Information System (NIDIS)

Location in budget (account, sub-activity, line item, and program):

NOAA / OAR / ORF / Climate Data & Information/NIDIS/Climate Observations and Analysis (COA) Program

IT Increase and IT Base Amount

FY 2008 Program Investment Change:	**FY 2008 IT Investment Request:**	**FY 2008 – FY 2012 IT Investment Request**:
$1,800K	**$1,400K**	$7,000K

1**) Briefly describe the FY2008 Investment Increase:**
NOAA requests an increase of $1,800,00 and 0 FTEs establish, operate, and maintain a U.S. Drought Portal (USDP) @ $1,400K/year IT and install, operate, and maintain @ at cost of $400K/year non-IT soil moisture and temperature sensors at each of the 114 U.S. Climate Reference Network (USCRN) stations operational across the 48 contiguous states. NOAA in partnership with many other federal, state, and local government agencies, universities, and public and private sectors, will establish, operate, and maintain a "Drought Portal" that will dramatically improve user access to and use of drought related data and information. These two investments will directly support two of NOAA's commitments (contributions) to the National Integrated Drought Information System (NIDIS), a National Drought Monitoring endeavor being funded and coordinated across federal, state, and local agencies and the private sector. NIDIS activities are a "new start."

2) Briefly describe the FY 2008 IT (components, purpose, function, objective, outcome):

U.S. Drought Portal ($1,400,000)

Establish the USDP in FY 08 and expand the capabilities and capacities in response to user needs. Internet access to a "drought early warning system" capable of providing accurate, timely, and integrated information describing drought conditions at county, state, regional, and national scales is the cornerstone and most visible element of the NIDIS Concept of Operations. The USDP will provide a critical link between the User Communities and the Information, Products and Service providers and will support the U.S. IEOS concept "to provide seamless, timely access to integrated Earth observations data, information, and products within the next decade." The USDP is leveraging against the Archive Data Management Working Group activities to ensure consistency across NTO portals. The USDP goals are: 1) support the ability to graph relevant data and products spatially and temporally, and interactively compose maps; 2) allow users to arrange and save selected products for a specific geographic area for easy return visits; and 3) support links to specific decision support systems. Given these goals, the USDP will:

1. Provide user-friendly, Internet navigation from national to county levels
2. Be populated with historical and real-time drought data and products from a variety of partners
3. Support easy to understand interpretations of relevant drought products, similar to how an individual can obtain information on a particular stock from a variety of financial web pages.

Examples of products to be included in the USDP are:

1. Observed elements at multiple time and spatial scales, as both station and gridded datasets: precipitation, snow pack, stream flows, reservoir levels, ground water, crop moisture, soil moisture, temperature, anomalies, and drought impacts.
2. Derived products and indexes: U.S. Drought Monitor, Palmer Drought Severity Index (PDSI), Standardized Precipitation Index (SPI), Objective Blends, Surface Water Supply Index (SWSI), Vegetation Drought Response Index (VegDRI), and the Keetch-Bryam Fire Index.
3. Forecast products: water supply, stream flow, climate, snow pack, and U.S. Drought Outlook
4. Educational products: Information that educates the user on what data are used to construct specific products, uncertainty in the observations, indexes, and forecasts. It will also provide examples of which products should be used to make specific decisions.

The first year funding will provide for the information technology hardware and software to establish, operate, maintain, and mature the portal capability and capacity using an applied service oriented architecture allowing seamless access between many exiting websites and a common look and flow of data, information, and products via the USDP. Activities in subsequent years will be linked to serving the needs of the larger NIDIS components that will be delivered to meet the other NIDIS milestones (refer to the US GEO NIDIS NTO document).

3) List all IT components within the increase:

Category	Adjustment Amount
Hardware: (Example: Desktop / Servers)	**$425K**
Hardware: (Example: Supercomputer)	**0**
COTS Software: Example: Unix)	**0**
Support Services: (Example: Software Development)	**$600K**
Telecommunications: (Example: Circuits)	**0**
IT Security : (Example: C&A Costs, McAfee Software, Security Plan Development, Incident Response)	**$75K**
Training: (Example: Router Training)	**0**
Common User Services: (Example: Help Desk)	**$300K**

4) Describe the Program Capability Gap that the IT Investment meets:

Currently there is no coordinated means of providing easy, convenient, and comprehensive access to data and information, services, and products offered at many existing web sites. The USDP will provide the means to share and transport drought data and information within and across regions and the Nation at a low cost to the users and taxpayers while providing a high rate of return of the investment (ROI). The soil sensors at 114 USCRN stations will go a long way to closing significant Regional and National gaps in the measurement of soil moisture and temperature. These additional data points are critical for assessing drought conditions and producing economic planning tools, particularly for agricultural businesses related to agriculture and ware resource management.

Benefits

Products retrieved from through this drought portal can be used for agricultural risk assessments, water resource management, environmental risk assessments, efficient energy management and many other decision-making purposes that prepare the Nation for drought. USDP provides relevant spatial and temporal drought risk information to three distinct User Communities: 1) the general public who need to know the status of drought and what actions to take if the drought worsens where they live and work; 2) decision-makers and businesses at state, county, and regional levels that need to plan for and mitigate drought; and 3) drought experts tasked with developing more refined decision support systems. Other benefits include:

- County-level drought information available to decision makers and USDA (for disaster declarations) could save millions to billions of dollars for the federal government as well as provide additional resources to farmers.
- Mitigation of a $6-8B impact on the national economy.
- Improved water resource and energy management policies and decisions (short and long term).
- Significant ROI - The Drought Portal cost is pennies on the dollars returned due to making good decisions and plans to mitigate drought impacts and develop hazard resilient communities.
- Infrastructure will be in place nationwide for NOAA to proactively address emerging climate-related environmental problems.
- Local, state, regional, and national decision makers will have access to operational NOAA and partner products free via the Internet.
- New operational drought decision support products will be integrated into the Drought Portal as developed to provide customers with better information to make decisions and modify behavior with respect to known risk in climate-sensitive sectors.

The enhanced network of point-based soil measurements will reveal large-scale soil moisture patterns. In addition to supporting drought monitoring, preparedness, and response, the increased number of observations of soil moisture will contribute and benefit:

- Climate forecasting and modeling.
- Reservoir management.
- Irrigation scheduling.
- Crop yield forecasting.
- Contribute to independent verification and validation (IV&V) and calibration of satellite based sensors and measurements.
- Maximizes the value and utility of satellite measurements.

Minimizes the number of point ground based sensors over large areas because high confidence in the satellite measurements.

5) IT Security (provide the following):

a. NOAA System ID = NEW NOAAXXXX
b. Operational Date = Planned = 1/1/2009
c. C&A Date (planned or current) Planned = 12/1/2008
d. C&A Expiration Date: Planned = 12/1/2011